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### (54) FERRITE MATERIAL

#### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a ferrite material which can be effectively reduced in loss, by simultaneously mixing NiO and CoO in the fundamental component of an Mn-Zn ferrite containing Fe<sub>2</sub>O<sub>3</sub> in excess of a specific amount.

**SOLUTION:** A ferrite material contains a basic component composed of about 52 to 68 mol.% Fe<sub>2</sub>O<sub>3</sub>, about 0.5 to 10 mol.% NiO, about 15 mol.% or less ZnO, about 0.05 to 0.5 mol.% CoO, and the remaining mol.% MnO. It is possible to mix 0.010-0.100 wt.% SiO<sub>2</sub> and 0.020-0.300 wt.% CaO in the basic component, and, in addition, to mix one or two kinds of oxides selected from among Nb<sub>2</sub>O<sub>5</sub>, Ta<sub>2</sub>O<sub>5</sub>, V<sub>2</sub>O<sub>5</sub>, ZrO<sub>2</sub>, HfO<sub>2</sub>, TiO<sub>2</sub>, and SnO<sub>2</sub> in the basic component within specific ranges. However, the total content of these added components must be adjusted to ≤1 wt.%. When the total content of the added components is adjusted to ≤1 wt.%, the value of the loss of the ferrite material at 1 MHz, 50 mT, and 80° C becomes ≤300 kW/m<sup>3</sup>. Therefore, a ferrite material which

is less in loss in a high-frequency domain can be obtained.

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